



State of Utah

Department of  
Environmental Quality

*Richard W. Sprott*  
Executive Director

DIVISION OF AIR QUALITY

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Director

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*Lieutenant Governor*

DAQE-IN0100410009-08

March 14, 2008

Patrick Clark  
Staker & Parson Companies  
P.O. Box 3429  
Ogden, Utah 84409

Dear Mr. Clark:

Re: Intent to Approve: Modification to AO (DAQE-AN0041007-06) to Replace a Boiler  
Box Elder County – CDS SM; ATT; NSPS; HAPs; TITLE V MINOR  
Project Code: N010041-0009

The attached document is the Intent to Approve (ITA) for the above-referenced project. ITAs are subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Enqiang He. He may be reached at (801) 536-4010.

Sincerely,

John T. Blanchard, Manager  
Minor New Source Review Section

JTB:EH:sa

cc: Bear River Health Department  
Mike Owens, EPA Region VIII

**STATE OF UTAH**

**Department of Environmental Quality**

**Division of Air Quality**

**INTENT TO APPROVE: Modification to AO  
(DAQE-AN0041007-06) to Replace a Boiler**

**Prepared By: Enqiang He, Engineer  
(801) 536-4010  
Email: ehe@utah.gov**

**INTENT TO APPROVE NUMBER**

**DAQE-IN0100410009-08**

**Date: March 14, 2008**

**Staker & Parson Companies**

**Source Contact  
Patrick Clark  
(801) 430-3116**

**M. Cheryl Heying  
Executive Secretary  
Utah Air Quality Board**

### *Abstract*

*Staker & Parson Companies has requested a modification to its Approval Order (DAQE-AN0041007-06) to replace the boiler rated at 2.5 MMBTU/hr with a water heater rated at 9.9 MMBTU/hr. Production levels and natural gas consumption will remain unchanged. The source is located in Brigham City in Box Elder County, which is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. New Source Performance Standards (NSPS) applies to this source. Title V of the 1990 Clean Air Act applies to this source.*

*The potential to emit totals, in tons per year, will remain unchanged as follows:  $PM_{10} = 17.62$ ,  $NO_x = 33.70$ ,  $SO_2 = 11.01$ ,  $CO = 47.39$ ,  $VOC = 7.66$  and  $HAPs = 0.81$ .*

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in the Box Elder News & Journal on March 19, 2008. During the public comment period, the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

#### **General Conditions:**

1. This AO applies to the following company:

<u>Site Office</u>	<u>Corporate Office Location</u>
Staker & Parson Companies	Staker & Parson Companies
33 South 900 East	P.O. Box 3429
Brigham City, Utah 84302	Ogden, Utah 84409
Phone Number	(801) 409-2415
Fax Number	(801) 731-8800

The equipment listed in this AO shall be operated at the following location:

33 South 900 East, Brigham City, Utah

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27  
4,595.5 kilometers Northing, 416.7 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.
3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.
5. All records referenced in this AO or in applicable NSPS, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request. Records shall be kept for the following minimum periods:
  - A. Used oil consumption Three years
  - B. Emission inventories Five years from the due date of each emission statement or until the next inventory is due, whichever is longer
  - C. All other records Five years
6. Staker & Parson Companies shall install and operate the water heater and shall conduct its operations of the aggregate, asphalt and concrete production plants in accordance with the terms and conditions of this AO, which was written pursuant to Staker & Parson Companies' NOI submitted to the Division of Air Quality (DAQ) on February 4, 2008, and additional information submitted to the DAQ on March 4, 2008.
7. This AO shall replace the AO (DAQE-AN0041007-06) dated July 12, 2006.
8. The approved installations shall consist of the following equipment or equivalent\*:

**Aggregate Plant Equipment**

- |    |   |             |
|----|---|-------------|
| A. | One (1) Cedarapids cone crusher, MVP-450, Mfg 2005* | Subpart 000 |
| B. | One (1) Remco sandmax crusher, Mfg 2004*            | Subpart 000 |
| C. | Four (4) Cedarapids Screen, 8'x20', Mfg 2004*       | Subpart 000 |
| D. | One (1) TCI screen, 6'x18', Mfg 2004*               | Subpart 000 |
| E. | One (1) Cedarapids screen, 6'x20', Mfg 1996         | Subpart 000 |
| F. | One (1) Power screen, 250 ton per hour (tph)        | Subpart 000 |

G. Three (3) Overhead loadout bins, 250 tons each

H. One (1) Caterpillar 1,600 kW diesel generator\*

**Asphalt Plant Equipment**

I. One (1) Cedarapids asphalt plant, SN 46-403\* Subpart I

J. One (1) Aeropulse baghouse, 45,000 acfm\* Subpart I

K. Two (2) Liquid asphalt storage tanks, 25,000 gallons each

L. One (1) Asphalt storage silo, 250 tons

M. Two (2) Lime storage silos, 60 tons each

N. Five (5) Cold feed bins

**Concrete Batching Plant Equipment**

O. One (1) Johnson concrete plant, 100 cubic yards per hour, equipped with baghouse to control fugitive emissions from truck loading

P. One (1) Concrete plant loadout baghouse

Q. One (1) Double cement storage silo, 134 ton (equipped with dust collector)

R. One (1) Flyash storage silo, 51 ton (equipped with dust collector)

S. One (1) direct contact water heater rated at 9.9 MMBTU/hr

T. All plants will have miscellaneous equipment including conveyors, stackers, loaders, haul and water trucks.

\* Equivalency shall be determined by the Executive Secretary.

9. The baghouse shall control process streams from the asphalt plant drum. This baghouse shall be sized to handle at least 45,000 ACFM for the existing conditions. All exhaust air from the drum shall be routed through the baghouse before being vented to the atmosphere.

10. The following operating parameters shall be maintained within the indicated ranges:

A. Asphalt Plant Baghouse

1) The pressure drop shall not be less than 2.0 inches of water column or more than 6.0 inches of water column.

They shall be monitored with equipment located such that an inspector/operator can safely read the output any time. The readings shall be accurate to within the following ranges:

B. Pressure drop - Plus or minus 0.5 inches of water column

All instruments shall be calibrated according to the manufactures instructions at least once every 12 months.

11. Staker & Parson Companies shall notify the Executive Secretary in writing when the installation of the equipment listed in Condition #8.S has been completed and is operational. To insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the construction and/or installation have not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation and may revoke the AO in accordance with R307-401-18.

### **Limitations and Tests Procedures**

12. Emissions to the atmosphere at all times from the indicated emission point(s) shall not exceed the following rates and concentrations:

Source: Asphalt Plant Baghouse Exhaust Stack

<u>Pollutant</u>	<u>lb/hr</u>	<u>grains/dscf</u> (68 °F, 29.92 in Hg)
PM <sub>10</sub> .....	5.40.....	0.024
PM <sub>10</sub> (RAP) .....	6.30.....	0.028

13. Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:

A.	<u>Emissions Point</u>	<u>Pollutant</u>	<u>Testing Status</u>	<u>Test Frequency</u>
	Asphalt Plant Baghouse Stack	PM <sub>10</sub> (Virgin and RAP) ... *	.....	@

B. Testing Status

\* The initial TSP testing was performed on June 21, 2004. Subsequent tests shall be for PM<sub>10</sub>.

@ Test every five years. The Executive Secretary may require testing at any time. Compliance testing shall not be required for both virgin and recycle materials during the same testing period. Testing shall be performed for the product being produced during the time of testing.

C. Notification

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test. The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary.

D. Sample Location

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

E. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2 or other testing methods approved by the Executive Secretary.

F. PM<sub>10</sub>

For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, or other testing methods approved by the Executive Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the Executive Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. The portion of the front half of the catch considered PM<sub>10</sub> shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Executive Secretary.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

G. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

H. New Source Operation

For a new source/emission point, the production rate during all compliance testing shall be no less than 90% of the production rate listed in this AO. If the maximum AO allowable production rate has not been achieved at the time of the test, the following procedure shall be followed:

- 1) Testing shall be at no less than 90% of the production rate achieved to date.
- 2) If the test is passed, the new maximum allowable production rate shall be 110% of the tested achieved rate, but not more than the maximum allowable production rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate.
- 3) The owner/operator shall request a higher production rate when necessary. Testing at no less than 90% of the higher rate shall be conducted. A new maximum production rate (110% of the new rate) will then be allowed if the test is successful. This process may be repeated until the maximum AO production rate is achieved.

I. Existing Source Operation

For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

14. The amount of recycled asphalt used in the asphalt production shall not exceed 40% of the total product at any time. Compliance shall be determined by the actual hourly production of the plant divided by the hourly amount of recycled product introduced to the plant. Daily records maintained on site shall include:

- A. Total production
- B. Amount of recycled asphalt used in the total production
- C. Daily calculations of the percent recycle used in the total production



15. Visible emissions from the following emission points shall not exceed the following values:

- A. All crushers - 15% opacity
- B. All screens - 10% opacity
- C. All baghouse exhaust stacks – 10% opacity
- D. All silo binvent exhaust points – 10% opacity
- E. All conveyor transfer points - 10% opacity
- F. All diesel engines - 20% opacity
- G. All conveyor drop points - 20% opacity
- H. The water heater - 10% opacity
- I. All other points - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9.

16. Visible fugitive dust emissions from haul-road traffic and mobile equipment in operational areas shall not exceed 20% opacity. Visible emission determinations for traffic sources shall use procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Six points, distributed along the length of the haul road or in the operational area, shall be chosen by the Executive Secretary or the Executive Secretary's representative. An opacity reading shall be made at each point when a vehicle passes the selected points. Opacity readings shall be made 1/2 vehicle length or greater behind the vehicle and at approximately 1/2 the height of the vehicle or greater. The accumulated six readings shall be averaged for the compliance value.
17. The following production and/or consumption limits shall not be exceeded:
- A. 2,000,000 tons of processed aggregate material per rolling 12-month period
  - B. The allowable operating hours for the aggregate processing plant shall be between 6:00 am and 10:00 pm.
  - C. 200,000 tons of asphalt production per rolling 12-month period

- D. 4,000 tons of petroleum contaminated soils<sup>1</sup> used per rolling 12-month period
- E. The asphalt plant shall operate a maximum of 16 hours per day
- F. 150,000 cubic yards of concrete production per rolling 12-month period
- G. 10,000 gallons of fuel consumed by the 1,600 kw diesel generator per rolling 12-month period
- H. 20,586 MMBtu of natural gas consumption per rolling 12-month period

To determine compliance with a rolling 12-month total the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of consumption/production shall be kept for all periods when the plant is in operation. Production/Consumption shall be determined by scale house records or vendor receipts. The records of consumption/production shall be kept on a daily basis. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log. Natural gas consumption shall be determined by monthly billing statements from a utility company.

### **Roads and Fugitive Dust**

- 18. Staker & Parson Companies shall abide by a fugitive dust control plan acceptable to the Executive Secretary for control of all dust sources associated with the Brigham City aggregate pit.

The fugitive dust control plan shall include all necessary controls such that the silt loading values for each type of road or operational area contained in the NOI dated September 27, 2005 are not exceeded. The Executive Secretary may require silt loading tests of any or all of these roads or operational areas at any time.

- 19. Staker & Parson Companies shall abide by all applicable requirements of R307-205 for Fugitive Emission and Fugitive Dust sources. The full text of R307-205, Emission Standards: Fugitive Emissions and Fugitive Dust are included as Appendix A. However, to be in compliance, this source must operate in accordance with the most current version of R307-205.

### **Fuels**

- 20. The owner/operator shall use natural gas as a fuel for the water heater, and natural gas, liquid propane fuel, fuel oils #1 to #6 or on-specification used oil as a fuel source for the asphalt plant. The owner/operator shall use #1, #2 or a combination of #1 and #2 fuel oil as fuel for other on-site equipment.

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<sup>1</sup> The average concentration of total petroleum hydrocarbons in the soil shall be less than 10,000 ppm (mg total petroleum hydrocarbon/kilogram soil)

21. The sulfur content of any fuel oil or diesel burned shall not exceed:

- A. 0.50 percent by weight for fuels used in the asphalt plant.
- B. 0.05 percent by weight for diesel fuels consumed in all other equipment.

The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of used oil shall be either by Staker & Parson's own testing or test reports from the used oil fuel marketer. Certification of other fuels shall be either by Staker & Parson's own testing or test reports from the fuel marketer.

22. Sources burning used oil for energy recovery shall comply with the following:

A. The concentrations/parameters of contaminants in any used oil fuel shall not exceed the following levels:

- 1) Arsenic.....5 ppm by weight
- 2) Cadmium.....2 ppm by weight
- 3) Chromium.....10 ppm by weight
- 4) Lead.....100 ppm by weight
- 5) Total halogens.....1,000 ppm by weight
- 6) Sulfur.....0.5 percent by weight

B. The flash point of all used oil to be burned shall not be less than 100 °F.

C. The owner/operator shall provide test certification for each load of used oil fuel received. Certification shall be either by their own testing or test reports from the used oil fuel marketer. Records of used oil fuel consumption and the test reports shall be kept for all periods when the plant is in operation. Records shall be made available to the Executive Secretary or the Executive Secretary's representative upon request. The records shall include the three-year period prior to the date of the request.

D. Used oil that does not exceed any of the listed contaminants content may be burned. The owner/operator shall record the quantities of oil burned on a daily basis.

E. Any used oil fuel that contains more than 1000 ppm by weight of total halogens shall be considered a hazardous waste and shall not be burned in the asphalt plant. The oil shall be tested for halogen content by ASTM Method D-808-81, EPA Method 8240 or Method 8260 before used oil fuel is transferred to the asphalt plant fuel tank and burned.

- F. Sources utilizing used oil as a fuel shall comply with the State Division of Solid and Hazardous Waste in accordance with R315-15, UAC.

### **Federal Limitations and Requirements**

23. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, NSPS Subpart A (General Provisions), 40 CFR 60.1 to 60.18, Subpart I, 40 CFR 60.90 to 60.93 (Standards of Performance for Hot Mix Asphalt Facilities), and Subpart OOO, 40 CFR 60.670 to 60.676 (Standards of Performance for Nonmetallic Mineral Processing Plants) apply to this installation.

### **Records & Miscellaneous**

24. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on the information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on the equipment authorized by this AO shall be recorded.
25. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.
26. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the DAQ. The UAC R307 rules used by DAQ, the NOI guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

<http://www.airquality.utah.gov/>

The annual emissions estimations below include point source, fugitive emissions, fugitive dust, road dust, and tail pipe emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, Maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The controlled Potential to Emit (PTE) emissions for this source (the entire Brigham City Pit plant) are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	PM <sub>10</sub> .....	17.62
B.	SO <sub>2</sub> .....	11.01
C.	NO <sub>x</sub> .....	33.70
D.	CO .....	47.39
E.	VOC .....	7.66
F.	HAPs	
	Total Combined HAPs.....	0.81

The DAQ is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Sincerely,

John T. Blanchard, Manager  
Minor New Source Review Section